

REMARKS

Applicant appreciates the Examiner's thorough consideration provided the present application. Claims 1-10 are now present in the application. Claims 1 and 3-5 have been amended. Claims 1-5 are independent. Support for the amendments can be found throughout the specification, drawings and claims of the original application, and no new matter is entered. Reconsideration of this application, as amended, is respectfully requested.

Non-Final Office Action

The Office Action Summary of the outstanding Office Action indicated that outstanding Office Action is a final Office Action. However, after contacting the Examiner by the Applicant's representative on January 9, 2006, the Examiner admitted that the outstanding Office Action was inadvertently made final and should be a non-final Office Action. Therefore, the Examiner stated that he will treat the outstanding Office Action as a non-final Office Action. Applicant greatly appreciates the courtesy shown by the Examiner during the telephone communication on January 9, 2006.

Allowable Subject Matter

The Examiner has indicated that claims 2 and 7 are allowed. Applicant greatly appreciates the indication of allowable subject matter by the Examiner.

Claim Rejections Under 35 U.S.C. § 102

Claims 1, 3 and 4 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Zou et al., U.S. Patent No. 6,550,942. Claim 5 stands rejected under 35 U.S.C. § 102(e) as being anticipated by Branson et al., U.S. Patent Application Publication No. Us 2003/0090749. These rejections are respectfully traversed.

In light of the foregoing amendments to the claims, Applicant respectfully submits that these rejections have been obviated and/or rendered moot.

Zou et al. disclose an illumination system having a light source 502, an external reflective enclosure 504 with an opening 508, and an array 516 of lenticular optical elements 518 (as shown in Fig. 14).

Amended claim 1 of the present invention provides a scanning device for scanning an object, which comprises a lamp for emitting a light beam and a transparency with a plurality of refractors, wherein the plurality of refractors is configured to refract the light beam to the two ends of the object. The function of the plurality of refractors of the present invention is to increase the light density at two ends of the object so as to solve the problem of the light insufficiency at two sides of the lamp.

On the contrary, Zou et al. teaches how to **concentrate** the light to improve the illumination source efficiency. In column 11, lines 62-64 of Zou et al., the array 516 of lenticular optical elements 518 is configured to **collimate** or **focus** the light emerging from opening 508, rather than deflecting the light to the sides of the object. Therefore, Zou et al. does not disclose a scanning device comprising a transparency with a plurality of refractors for refracting light beam to the sides of the object. The functions and properties of the array 516 and

the lenticular optical elements 518 in Zou et al. are different from that of the transparency and refractors in the present invention. In other words, the device disclosed by Zou et al. is not anticipatory over the Applicant's device.

Regarding claim 3, the present invention provides a scanning device for scanning an object, which comprises a lamp for emitting a light beam and a tube for equally surrounding with the lamp, wherein the tube comprises a plurality of refractors for refracting the light beam to the two ends of the object. The function of the plurality of refractors of the present invention is to increase the light density at two ends of the object so as to solve the problem of the light insufficiency at two sides of the lamp.

However, according to Zou et al., the function of the lenticular optical elements 518 is to collimate or focus the light emerging from opening 508, which is totally different from the function of the plurality of refractors of the present invention.

In addition, the tube in the present invention equally surrounds the lamp; i.e., the tube has a continuous, unbroken surface to surround the lamp, and the refractors are on the surface of the tube. In Zou et al., there is an opening in the external reflective enclosure 504; i.e., the external reflective enclosure 504 does not have a continuous surface, and the opening is plugged by the array 516. Therefore, the external reflective enclosure 504 in Zou et al. and the tube in the present invention have different functions, properties and structures. Accordingly, claim 3 of the present invention has novelty in comparison with Zou et al.

Regarding Claim 4, the present invention provides a scanning device for scanning an object, which comprises a lamp for emitting a light beam and a convex plate, wherein the convex plate is configured to reflect the light beam to the two ends of the object. The function of the

convex plate of the present invention is to increase the light density at two ends of the object so as to solve the problem of the light insufficiency at two sides of the lamp.

As described above, Zou et al. discloses a device to **concentrate** the light for improving the illumination source efficiency. The external reflective enclosure 504 partially surrounds the illumination source for releasing the light from an opening, rather than reflecting the light to sides of the object. Therefore, Zou et al. does not disclose the convex plate of the present invention, and claim 4 of the present invention has novelty in comparison with Zou et al.

Branson et al. discloses an illumination system having a light source and a hollow reflector 24, wherein the hollow reflector 24 comprises a reflective surface 26, a first reflector 34 and a second reflector 38 (as shown in Fig. 4). As can be seen from the foregoing amendments, one of the features of the present invention as recited in claim 5 lies in a reflector, wherein the reflector comprises a plurality of **identical** reflection units and is configured to reflect the light beam to the two ends of the object. The function of the reflector of the present invention is to increase the light density at two ends of the object so as to solve the problem of the light insufficiency at two sides of the lamp.

However, Branson et al. discloses a reflector 24 with three different sections 26, 34 and 38, rather than identical units. In addition, Branson et al. teaches how to form a **collimated** light by the first and second reflectors 34 and 38, as shown in paragraph 0017. Therefore, Branson et al. does not disclose a scanning device comprising a reflector with a plurality of identical reflection units for reflecting light beam to the sides of the object. In other words, the device disclosed by Branson et al. is not anticipatory over the Applicant's device.

Since the utilized references fail to teach each and every limitation of claims 1 and 3-5, Applicant respectfully submits that claims 1 and 3-5 clearly define over the teachings of the utilized references. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 102 are respectfully requested.

Claim Rejections Under 35 U.S.C. § 103

Claims 6, 8 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Zou et al. in view of Wun et al., U.S. Patent No. 5,469,303. Claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Branson et al. in view of Wun et al. These rejections are respectfully traversed.

As described above, both Zou et al. and Branson et al. fail to disclose a transparency, a tube, a convex plate or a reflector of the present invention for deflecting the light to the two ends of the object. Wun et al. discloses a linear light source 23 usable for a scanner. Accordingly, the combination of all of the utilized references still cannot produce the effects and advantages of the present invention since they fail to disclose a scanner device with a unit to change the light beam direction for increase the light intensity at two ends of the object.

Therefore, Applicant respectfully submits that claims 6 and 8-10 clearly define over the teachings of the references relied on by the Examiner. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103 are respectfully requested.

CONCLUSION

Since the remaining patents cited by the Examiner have not been utilized to reject the claims, but merely to show the state of the prior art, no further comments are necessary with respect thereto.

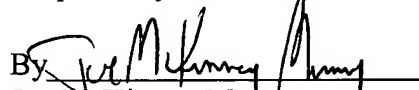
It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact Joe McKinney Muncy, Registration No. 32,334 at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 

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